

Figure 1,
Prior Art

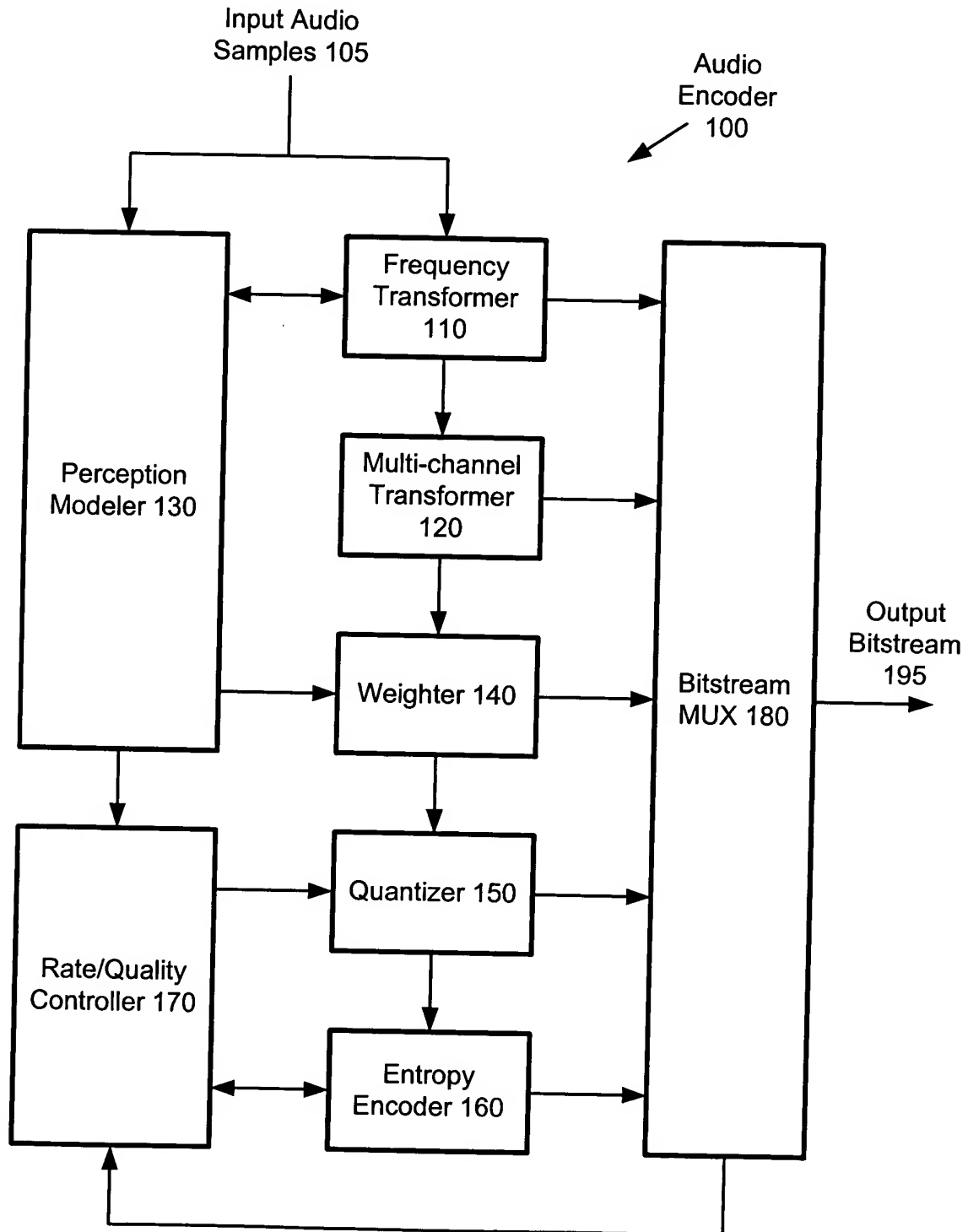


Figure 2,
Prior Art

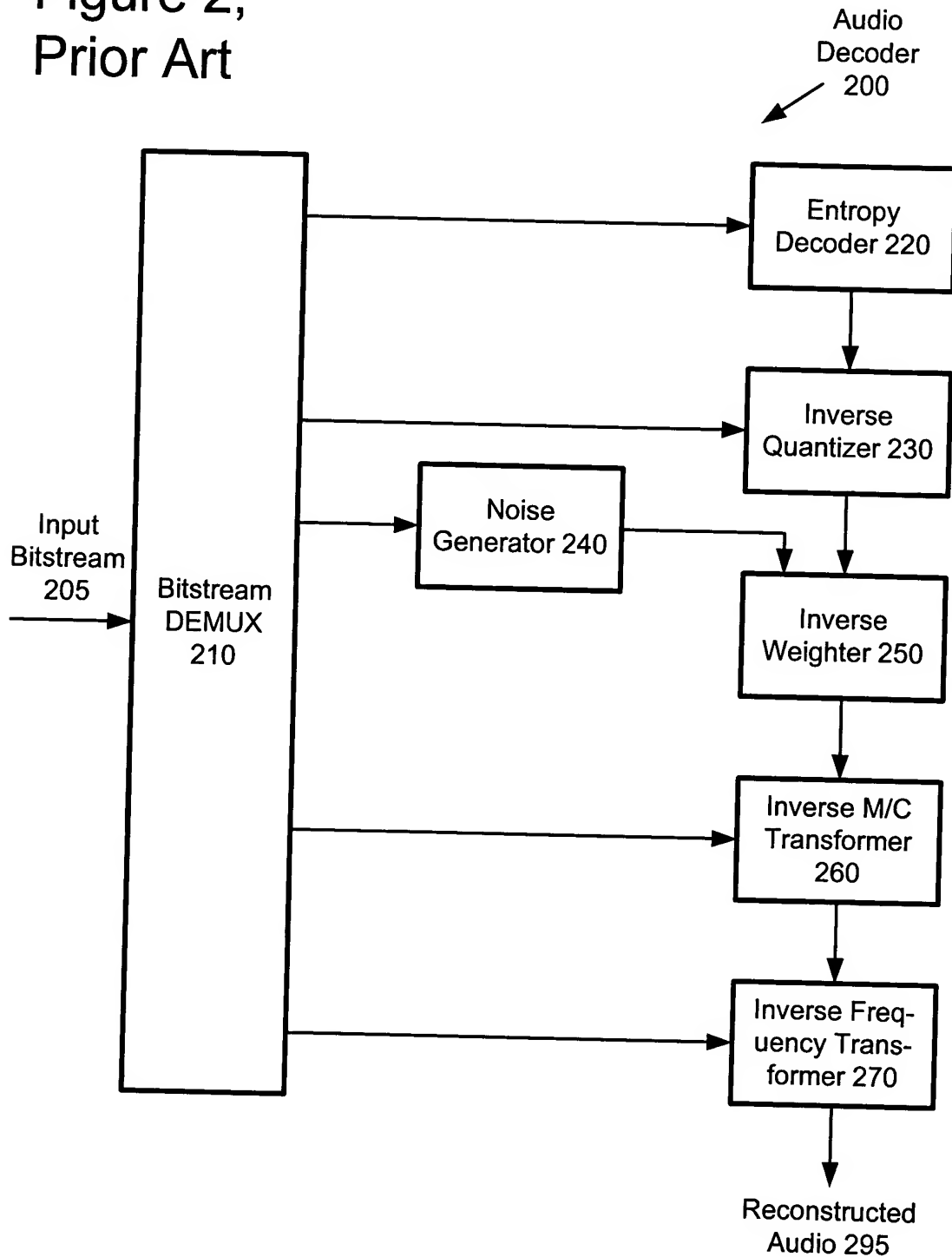


Figure 3a, Prior Art

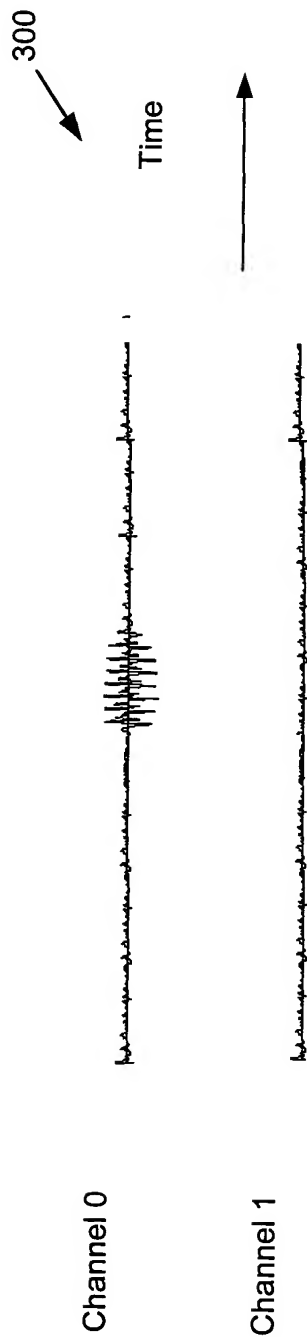


Figure 3b, Prior Art

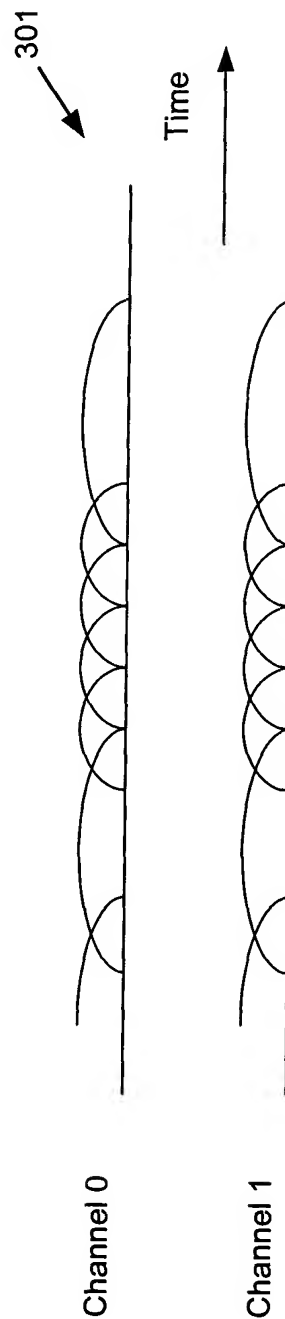


Figure 3c, Prior Art

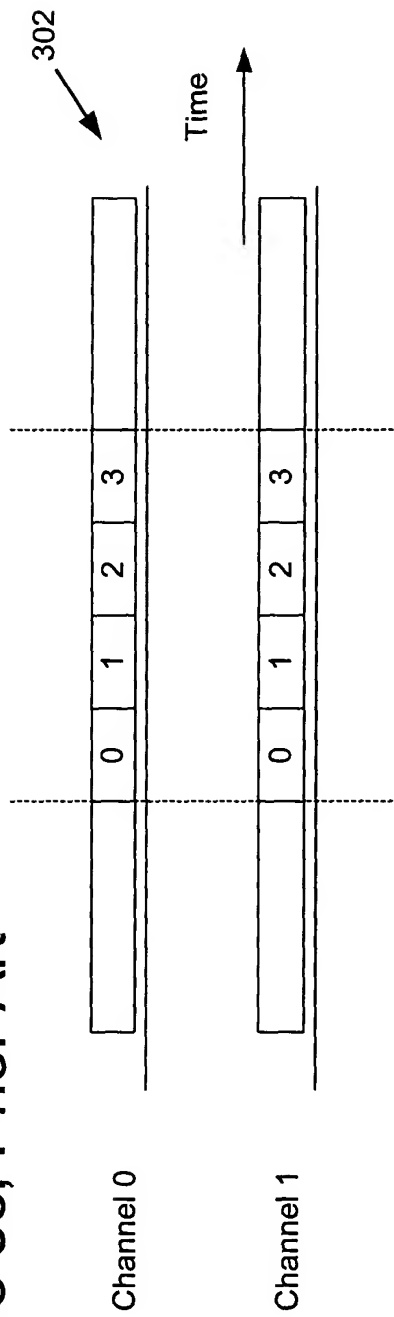


Figure 11a

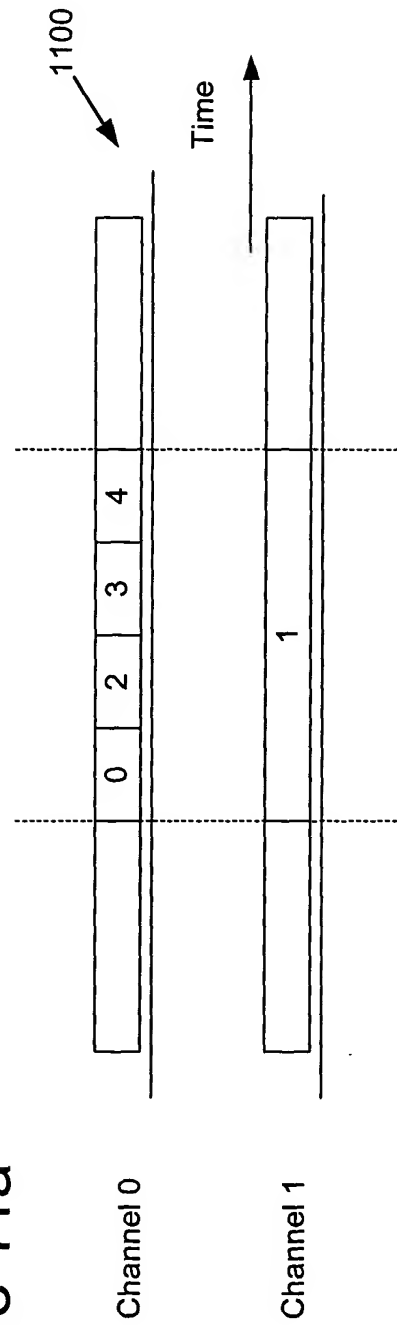


Figure 4

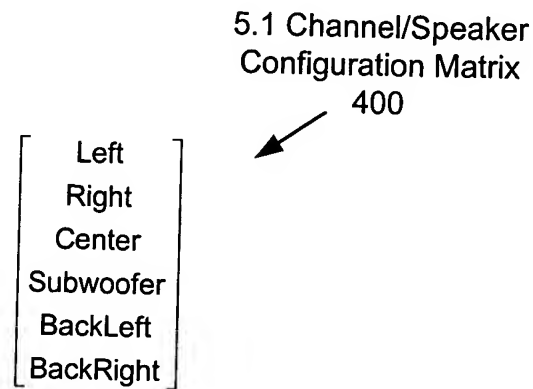


Figure 5

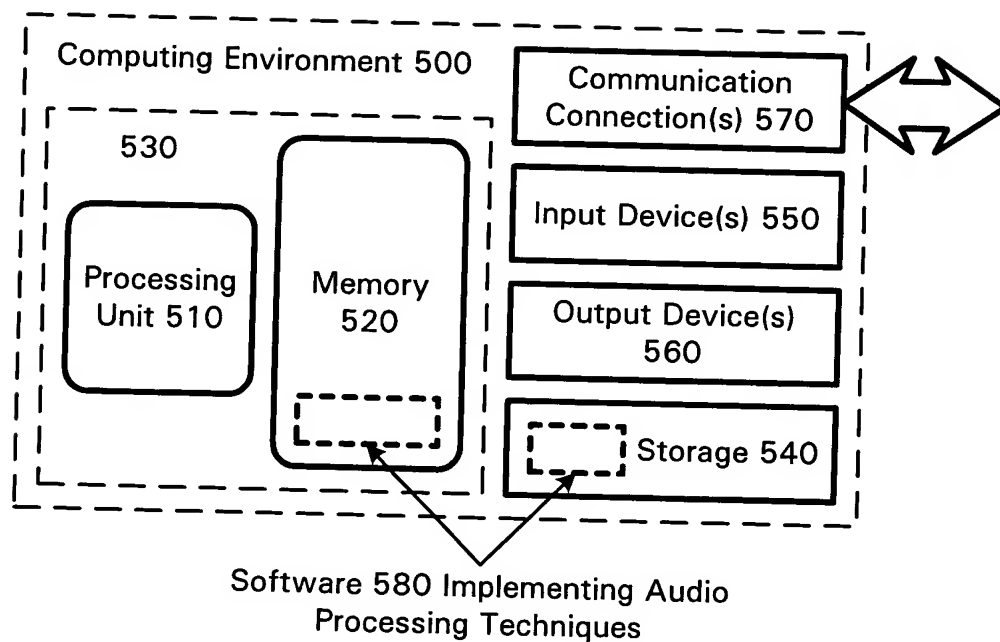


Figure 6

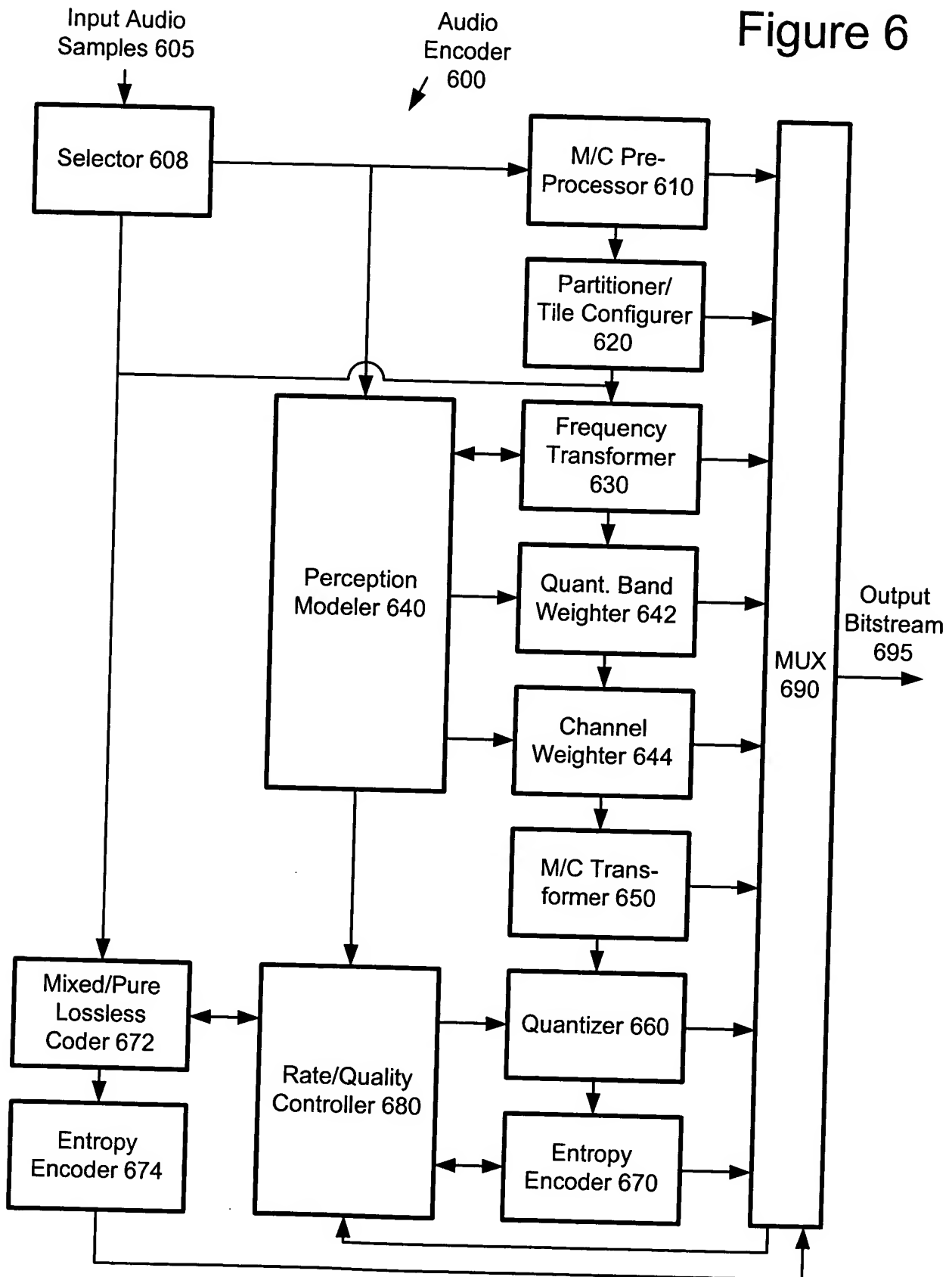


Figure 7

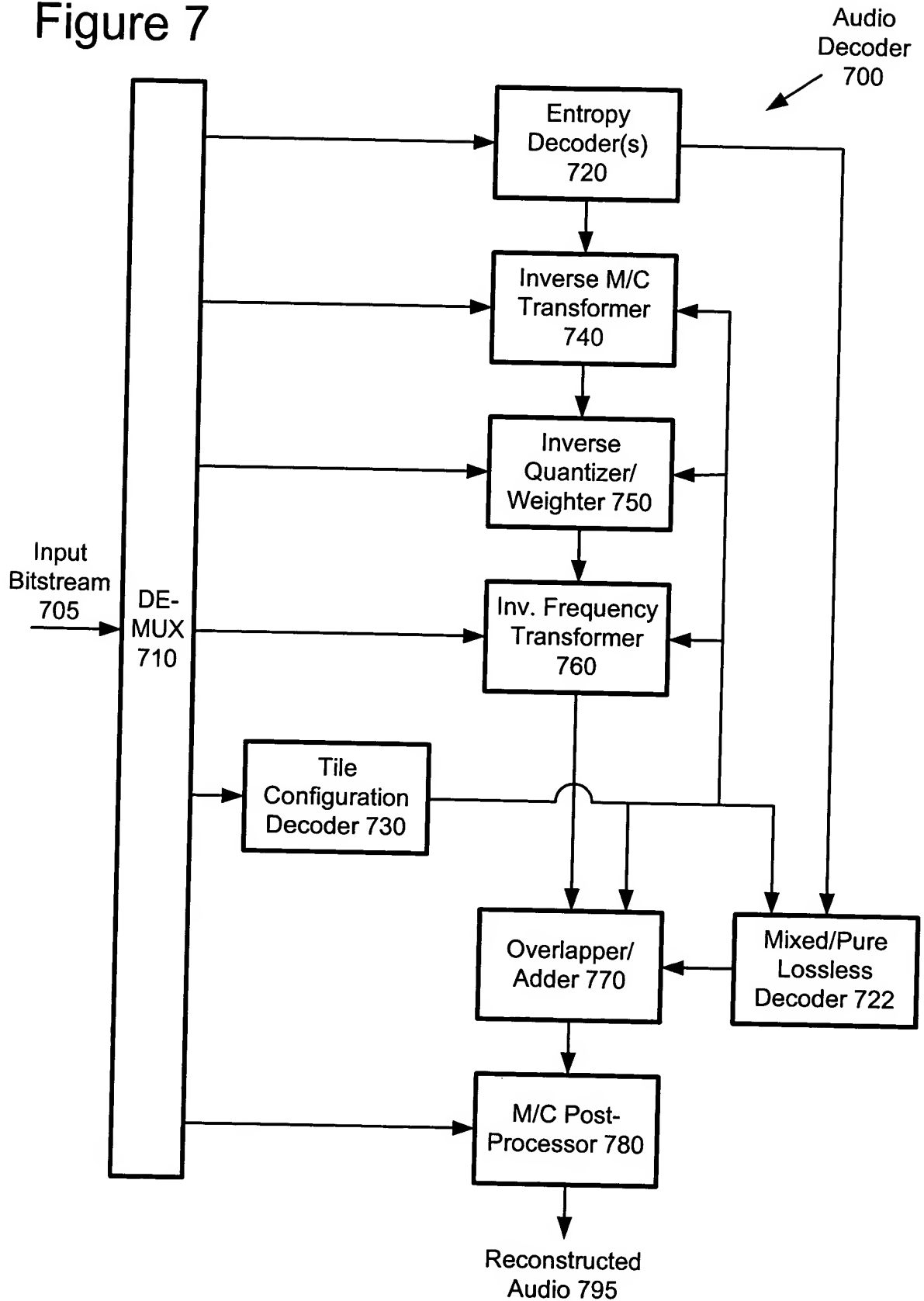


Figure 8

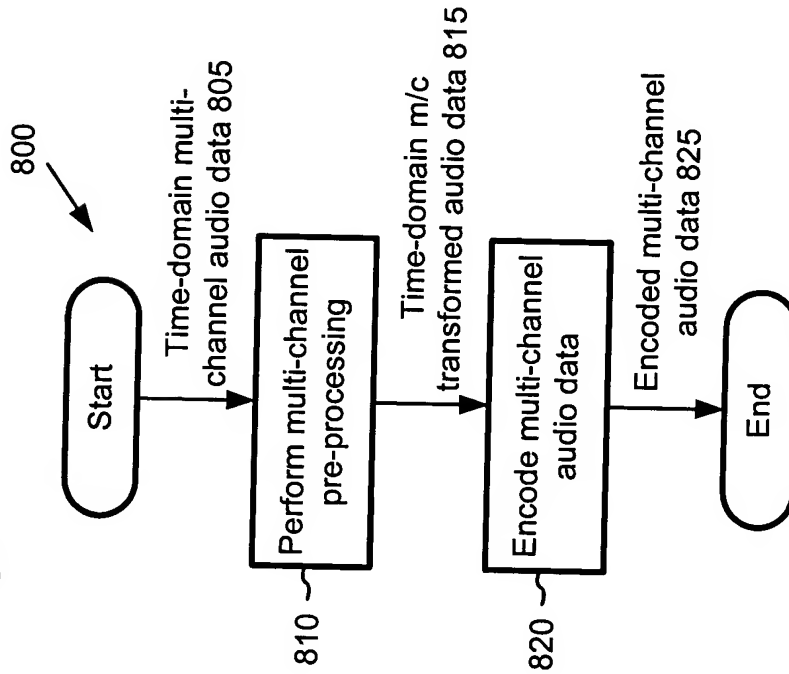


Figure 10

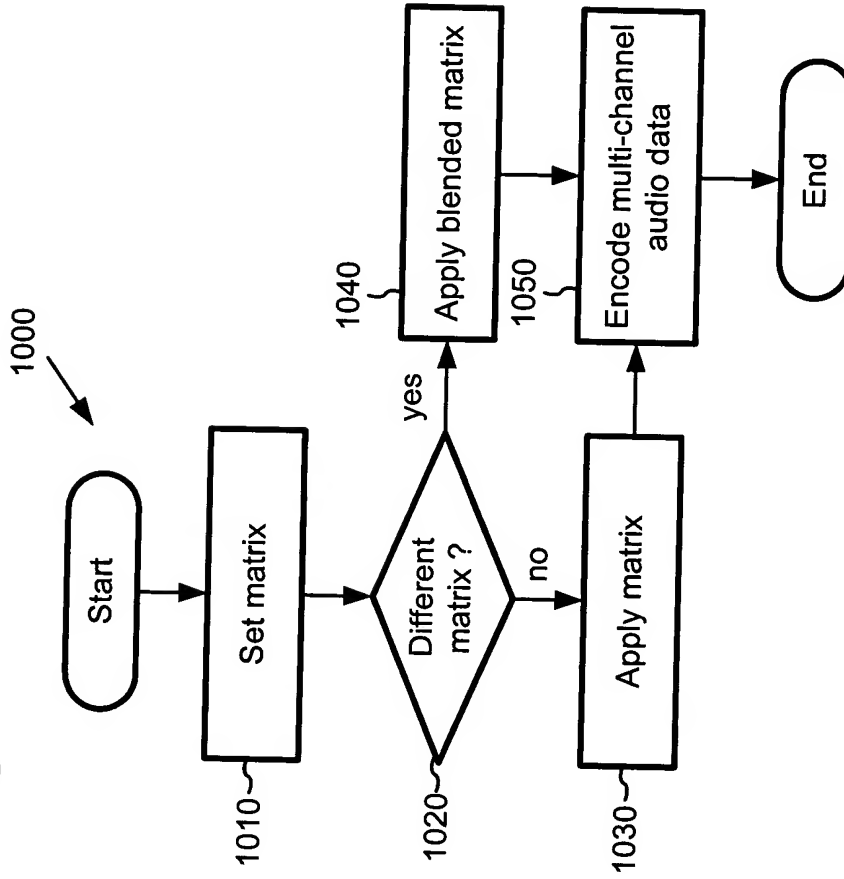


Figure 9a

$$A_{\text{low}} = \begin{bmatrix} 1 & 0 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \end{bmatrix}$$

Good quality
pre-processing
transform matrix
900

Figure 9b

$$A_{\text{inter},1} = \begin{bmatrix} \left(\frac{1}{1+0.5 \cdot \alpha} \right) & 0 & \left(\frac{0.5 \cdot \alpha}{1+0.5 \cdot \alpha} \right) & 0 & 0 & 0 \\ 0 & \left(\frac{1}{1+0.5 \cdot \alpha} \right) & \left(\frac{0.5 \cdot \alpha}{1+0.5 \cdot \alpha} \right) & 0 & 0 & 0 \\ \left(\frac{\alpha}{1+2\alpha} \right) & \left(\frac{\alpha}{1+2\alpha} \right) & \left(\frac{1}{1+2\alpha} \right) & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & \left(\frac{1}{1+\alpha} \right) & \left(\frac{\alpha}{1+\alpha} \right) \\ 0 & 0 & 0 & 0 & \left(\frac{\alpha}{1+\alpha} \right) & \left(\frac{1}{1+\alpha} \right) \end{bmatrix}$$

First
intermediate
quality pre-
processing
transform matrix
901

Figure 9c

$$A_{\text{high},1} = \begin{bmatrix} \left(\frac{1}{1.5} \right) & 0 & \left(\frac{0.5}{1.5} \right) & 0 & 0 & 0 \\ 0 & \left(\frac{1}{1.5} \right) & \left(\frac{0.5}{1.5} \right) & 0 & 0 & 0 \\ \left(\frac{1}{3} \right) & \left(\frac{1}{3} \right) & \left(\frac{1}{3} \right) & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0.5 & 0.5 \\ 0 & 0 & 0 & 0 & 0.5 & 0.5 \end{bmatrix}$$

First poor quality
pre-processing
transform matrix
902

Figure 9d

Second
intermediate
quality pre-
processing
transform matrix
903

$$A_{\text{inter},2} = \begin{bmatrix} \left(\frac{1}{1+0.5 \cdot \alpha} \right) & 0 & \left(\frac{0.5 \cdot \alpha}{1+0.5 \cdot \alpha} \right) & 0 & 0 & 0 \\ 0 & \left(\frac{1}{1+0.5 \cdot \alpha} \right) & \left(\frac{0.5 \cdot \alpha}{1+0.5 \cdot \alpha} \right) & 0 & 0 & 0 \\ 0.5 \cdot \alpha & 0.5 \cdot \alpha & 1-\alpha & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & \left(\frac{1}{1+\alpha} \right) & \left(\frac{\alpha}{1+\alpha} \right) \\ 0 & 0 & 0 & 0 & \left(\frac{\alpha}{1+\alpha} \right) & \left(\frac{1}{1+\alpha} \right) \end{bmatrix}$$

Figure 9e

Second poor
quality pre-
processing
transform matrix
904

$$A_{\text{high},2} = \begin{bmatrix} \left(\frac{1}{1.5} \right) & 0 & \left(\frac{0.5}{1.5} \right) & 0 & 0 & 0 \\ 0 & \left(\frac{1}{1.5} \right) & \left(\frac{0.5}{1.5} \right) & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0.5 & 0.5 \\ 0 & 0 & 0 & 0 & 0.5 & 0.5 \end{bmatrix}$$

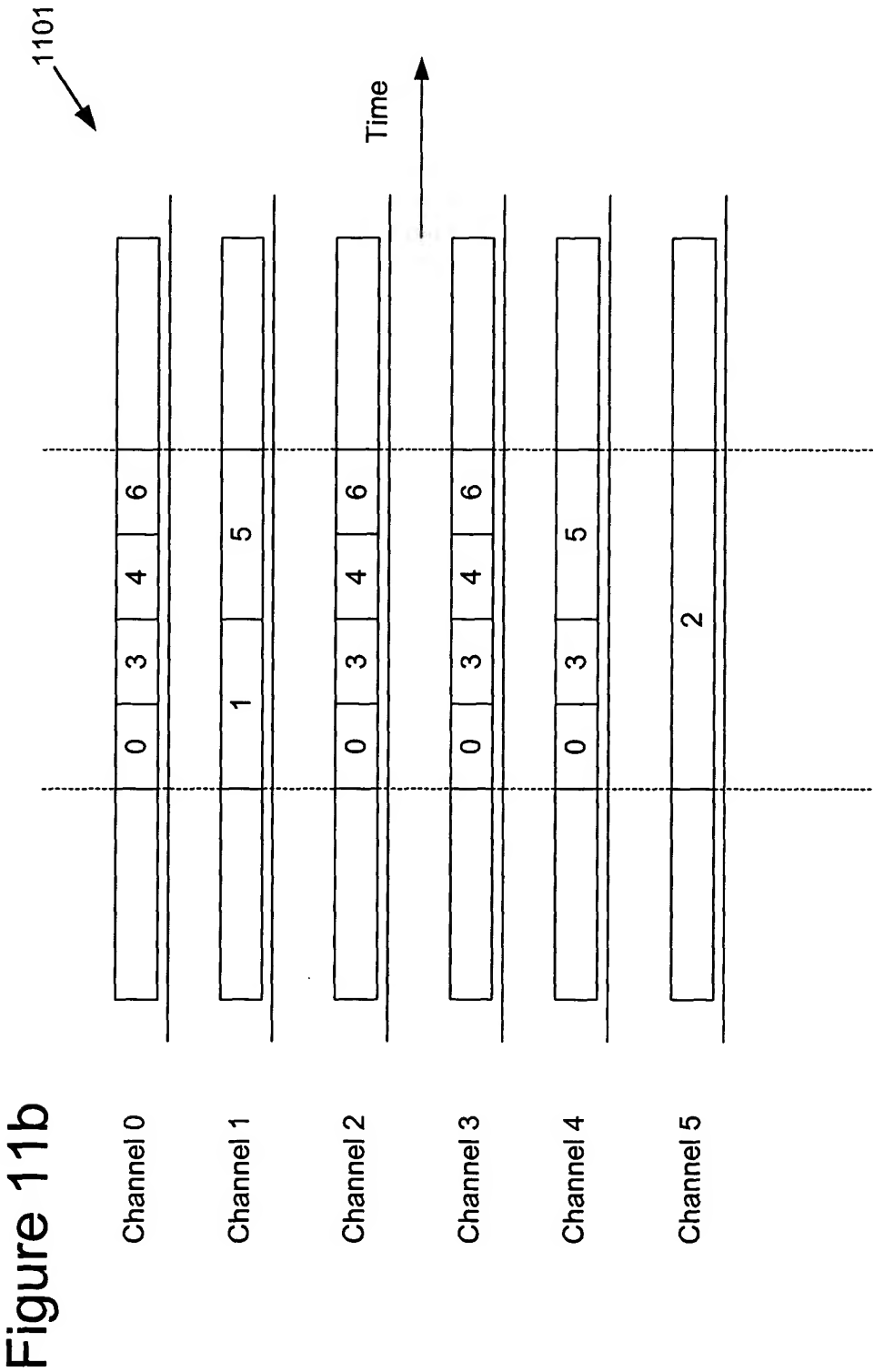


Figure 15 1500

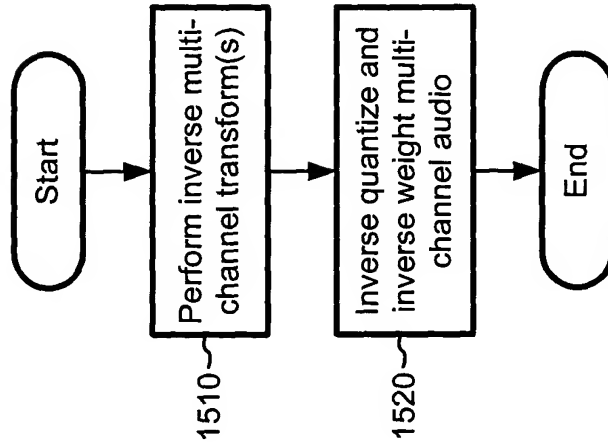


Figure 14 1400

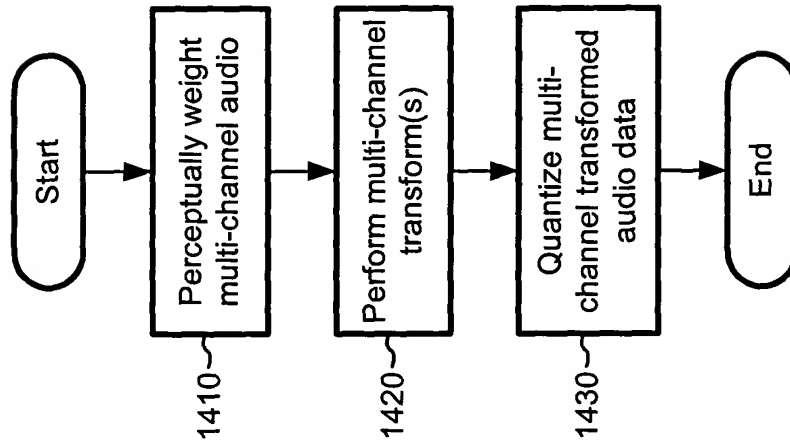


Figure 12 1200

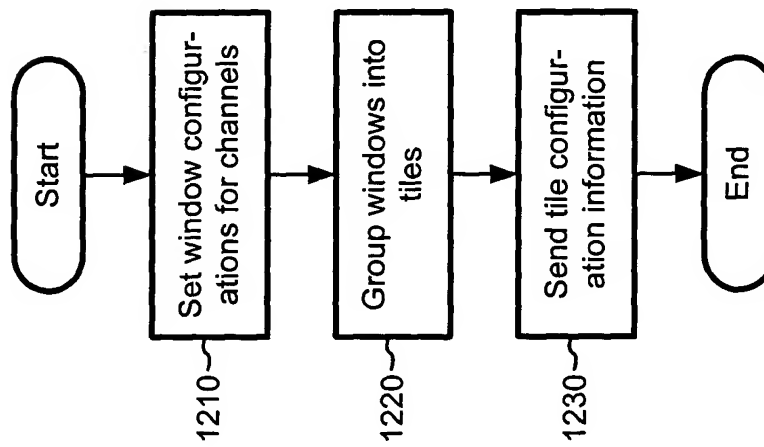


Figure 13

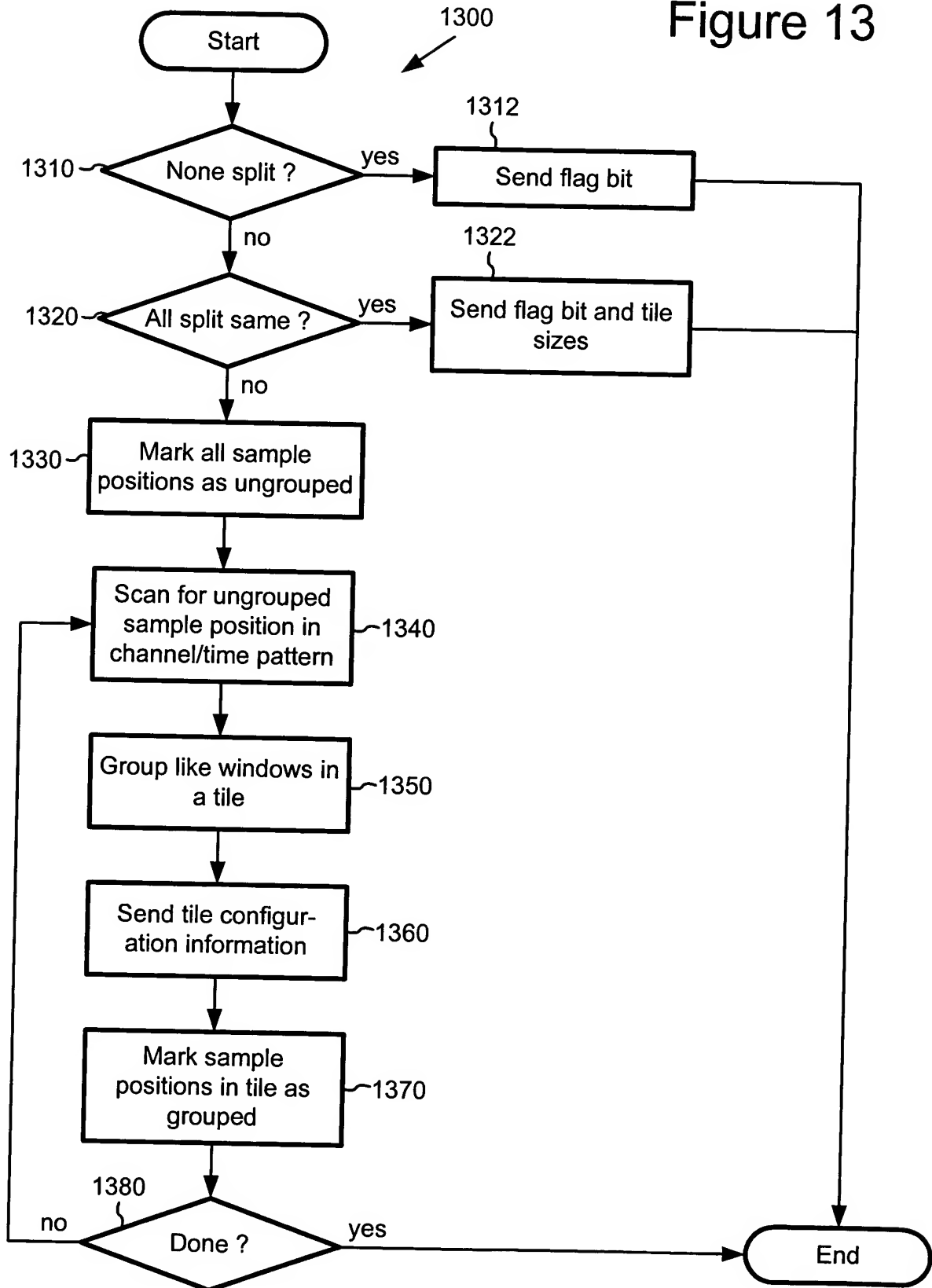


Figure 16

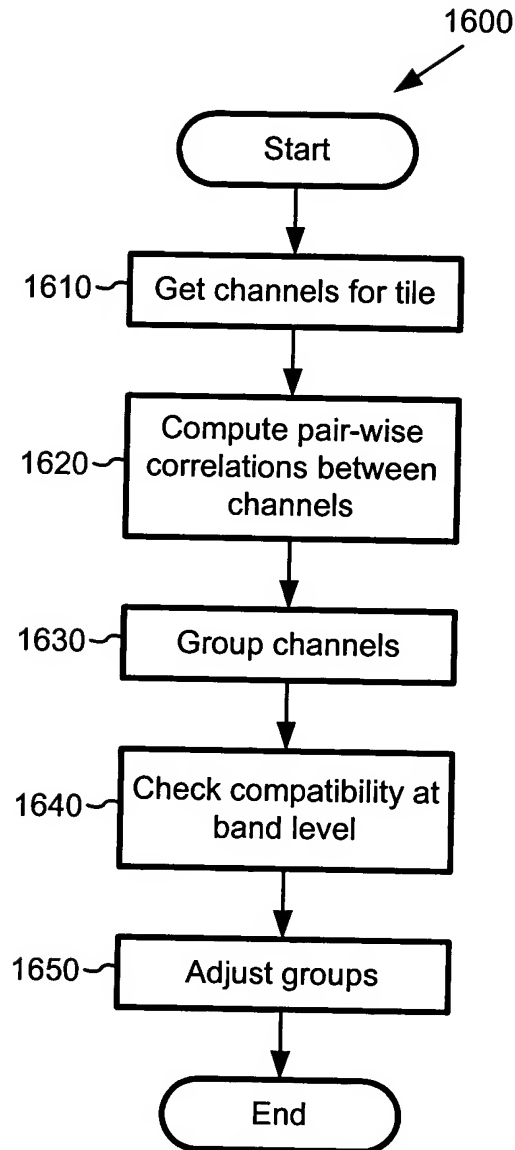


Figure 17

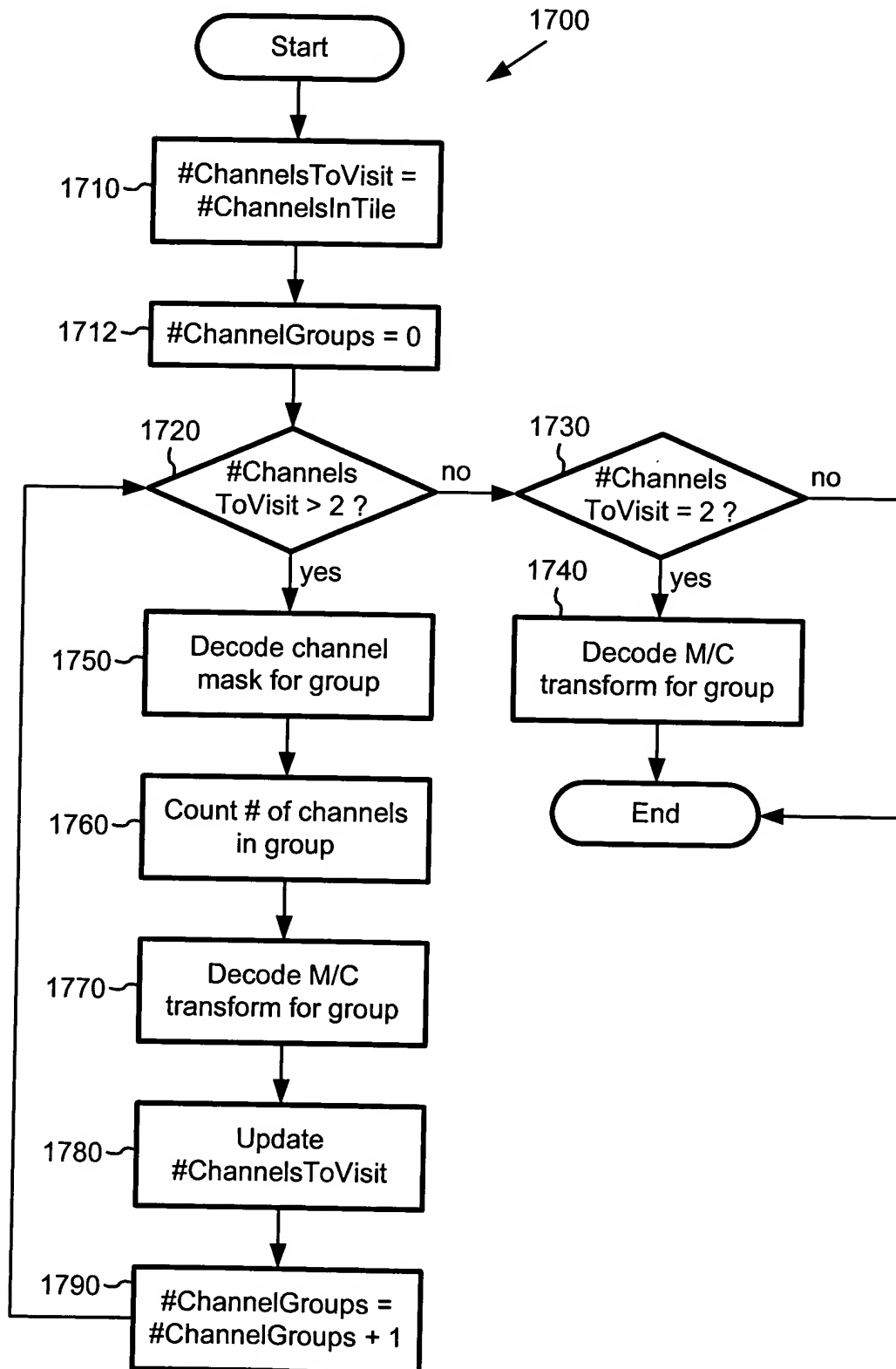


Figure 18

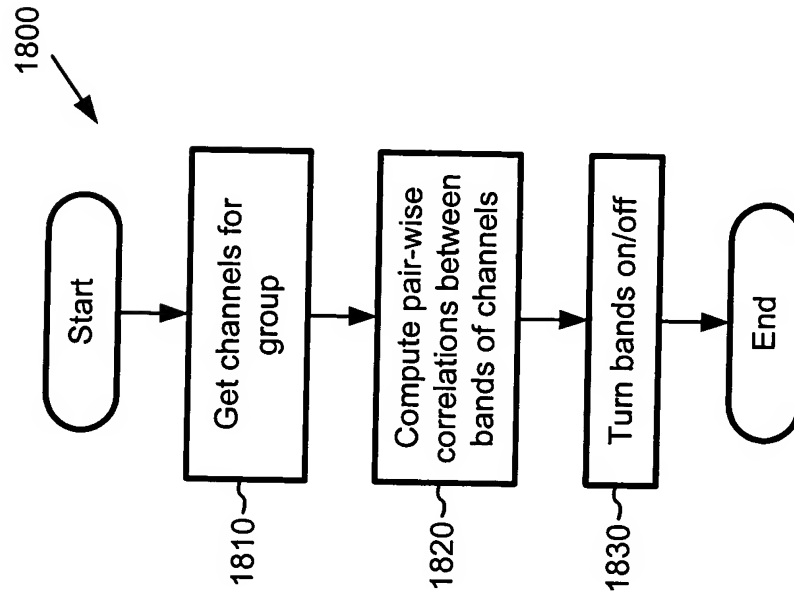


Figure 19

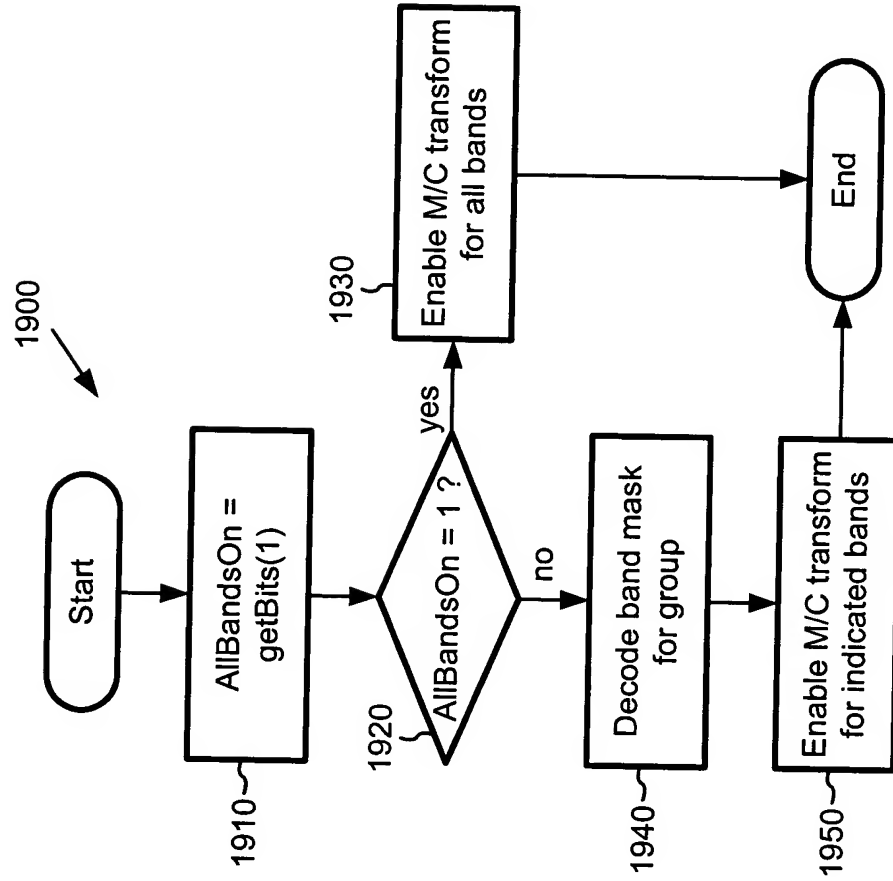


Figure 20

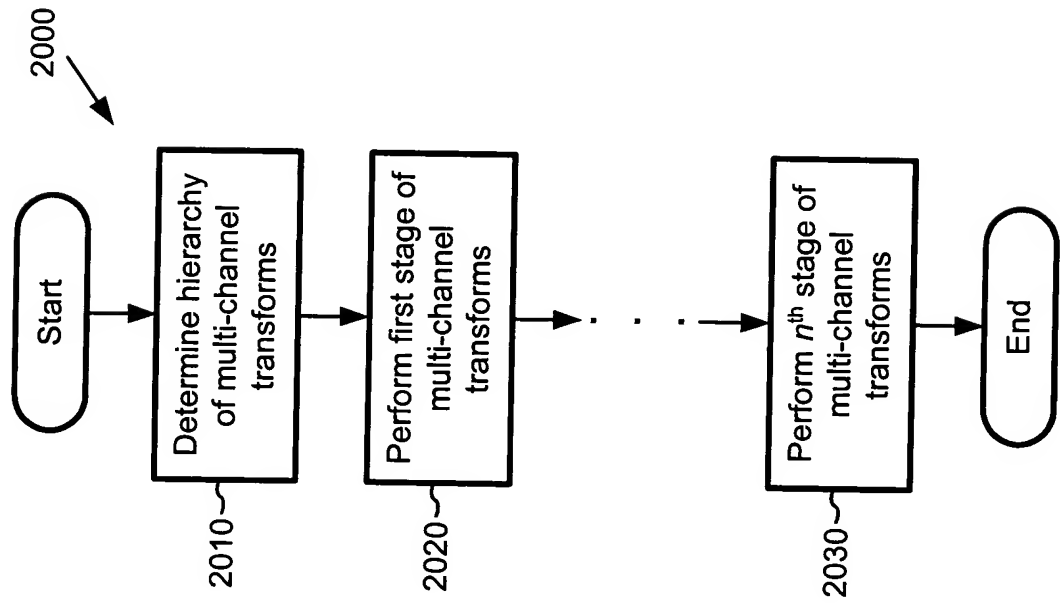


Figure 22

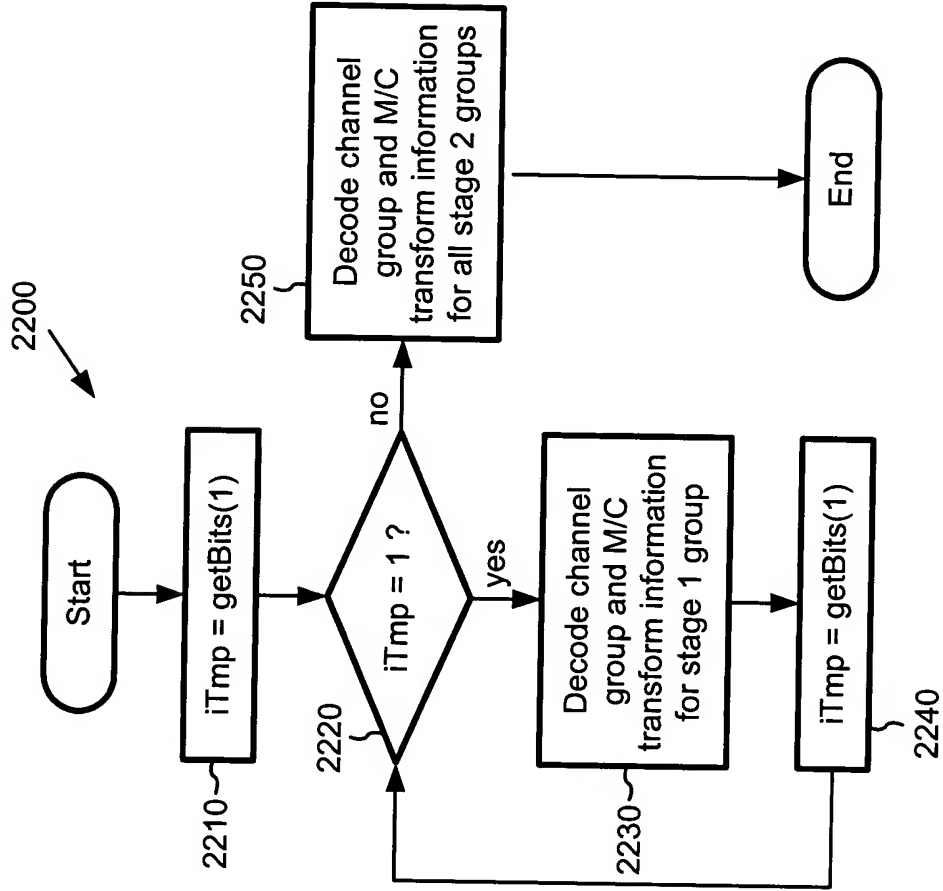


Figure 21

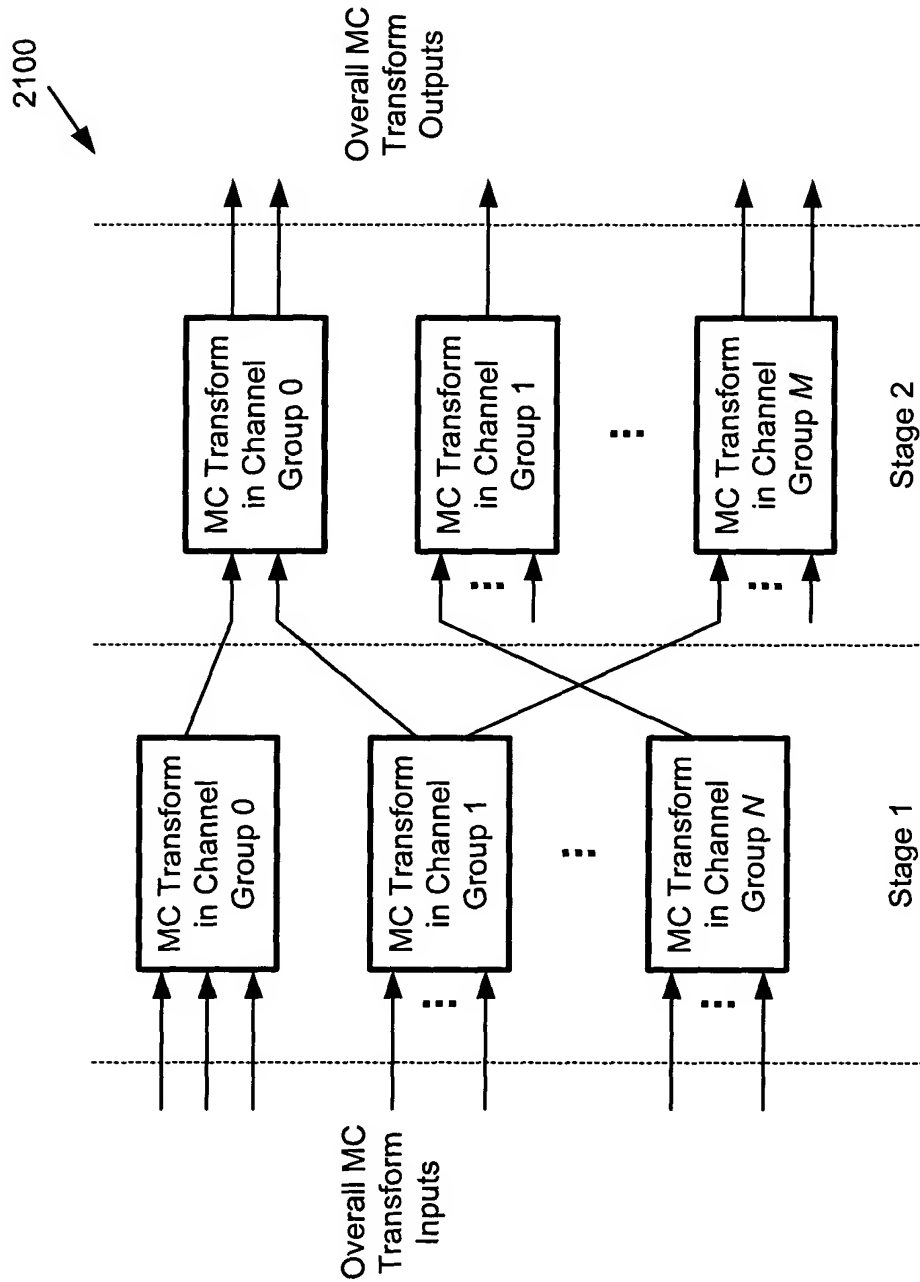


Figure 23

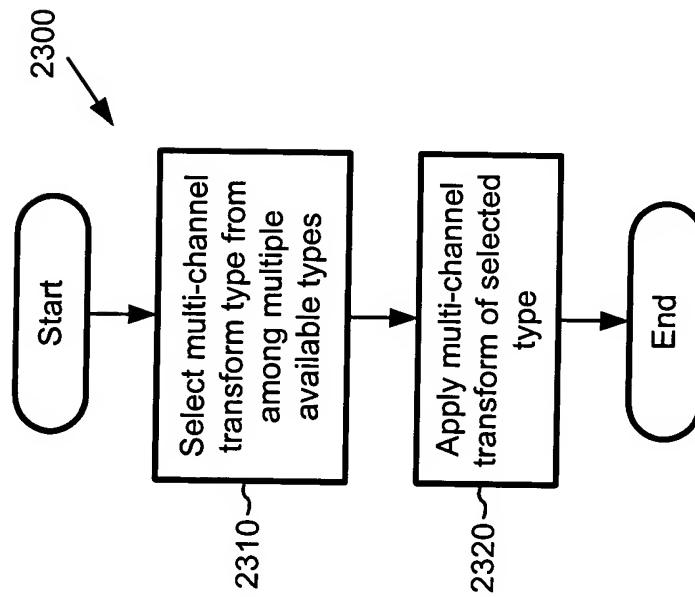


Figure 24

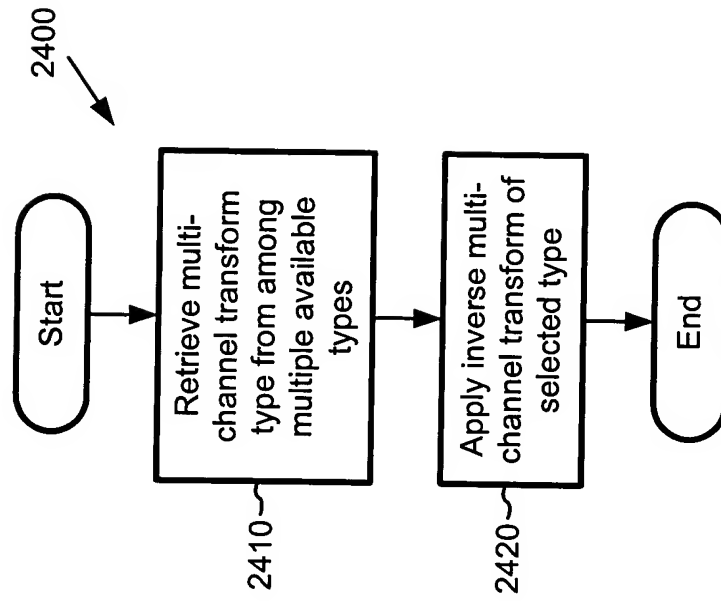


Figure 25

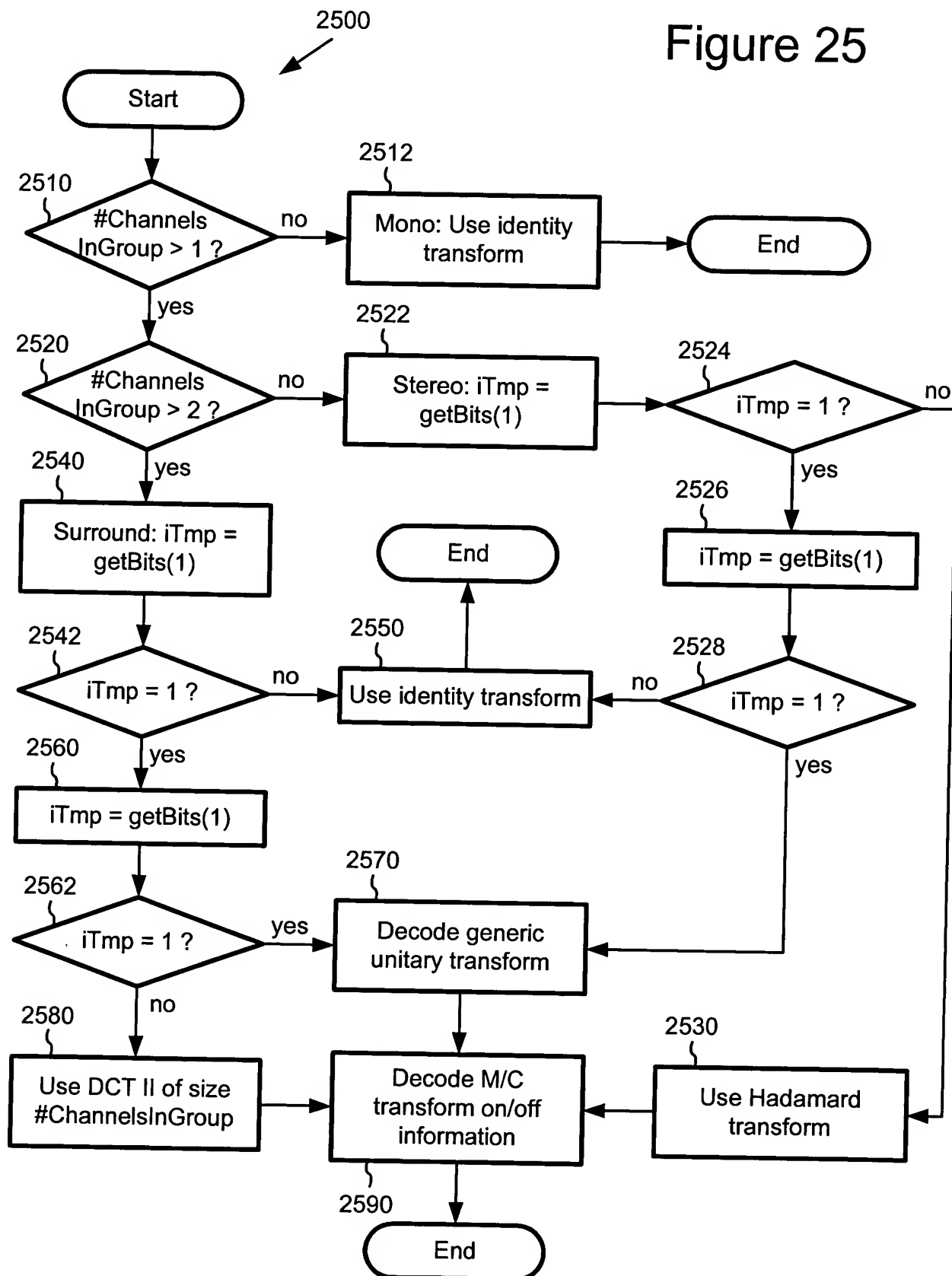


Figure 28

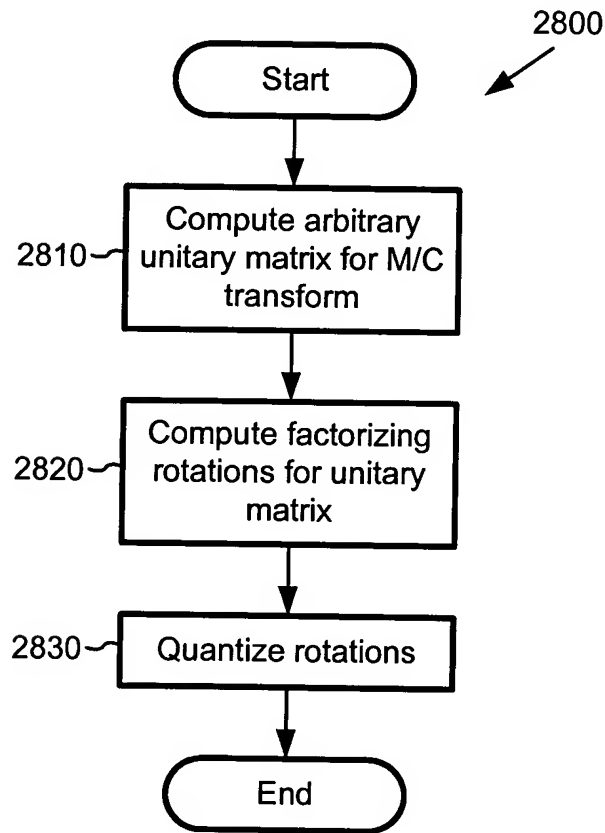


Figure 26

2600

$$\begin{bmatrix}
 1 & 0 & 0 & 0 & \dots & 0 & 0 & 0 & 0 \\
 0 & 1 & 0 & 0 & \dots & 0 & 0 & 0 & 0 \\
 0 & 0 & \cos \omega_k & 0 & \dots & \sin \omega_k & 0 & 0 & 0 \\
 0 & 0 & 0 & 1 & \dots & 0 & 0 & 0 & 0 \\
 \dots & \dots & \dots & \dots & \dots & \dots & \dots & \dots & \dots \\
 0 & 0 & -\sin \omega_k & 0 & \dots & \cos \omega_k & 0 & 0 & 0 \\
 0 & 0 & 0 & 0 & \dots & 0 & 1 & 0 & 0 \\
 0 & 0 & 0 & 0 & \dots & 0 & 0 & 1 & 0 \\
 0 & 0 & 0 & 0 & \dots & 0 & 0 & 0 & 1
 \end{bmatrix}$$

Figure 27a

$$\Theta_1 = \begin{bmatrix} \cos \varpi_1 & \sin \varpi_1 & 0 & 0 & 0 & 0 & 0 & \dots & 0 \\ -\sin \varpi_1 & \cos \varpi_1 & 0 & 0 & 0 & 0 & 0 & \dots & 0 \\ 0 & 0 & 1 & 0 & 0 & 0 & 0 & \dots & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 & 0 & \dots & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 & 0 & \dots & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 & 0 & \dots & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 1 & \dots & 0 \\ \dots & \dots & \dots & \dots & \dots & \dots & \dots & \dots & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & \dots & 1 \end{bmatrix} \quad \begin{matrix} 2700 \\ \swarrow \end{matrix}$$

Figure 27b

$$\Theta_2 = \begin{bmatrix} \cos \varpi_2 & 0 & \sin \varpi_2 & 0 & 0 & 0 & 0 & \dots & 0 \\ 0 & 1 & 0 & 0 & 0 & 0 & 0 & \dots & 0 \\ -\sin \varpi_2 & 0 & \cos \varpi_2 & 0 & 0 & 0 & 0 & \dots & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 & 0 & \dots & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 & 0 & \dots & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 & 0 & \dots & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 1 & \dots & 0 \\ \dots & \dots & \dots & \dots & \dots & \dots & \dots & \dots & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & \dots & 1 \end{bmatrix} \quad \begin{matrix} 2701 \\ \swarrow \end{matrix}$$

Figure 27c

$$\Theta_3 = \begin{bmatrix} 1 & 0 & 0 & 0 & 0 & 0 & 0 & \dots & 0 \\ 0 & \cos \varpi_3 & \sin \varpi_3 & 0 & 0 & 0 & 0 & \dots & 0 \\ 0 & -\sin \varpi_3 & \cos \varpi_3 & 0 & 0 & 0 & 0 & \dots & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 & 0 & \dots & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 & 0 & \dots & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 & 0 & \dots & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 1 & \dots & 0 \\ \dots & \dots & \dots & \dots & \dots & \dots & \dots & \dots & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & \dots & 1 \end{bmatrix} \quad \begin{matrix} 2702 \\ \swarrow \end{matrix}$$

Figure 29

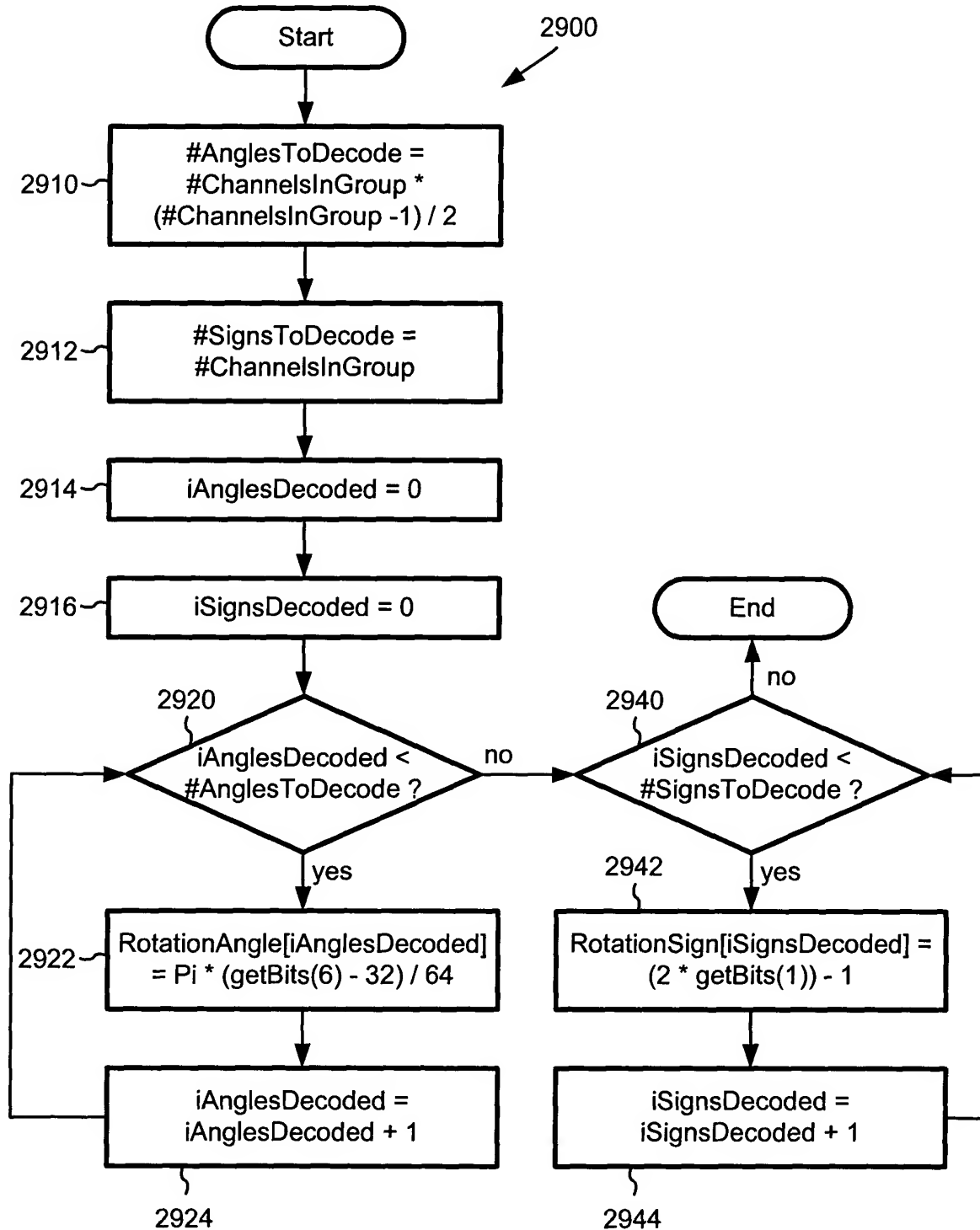


Figure 30

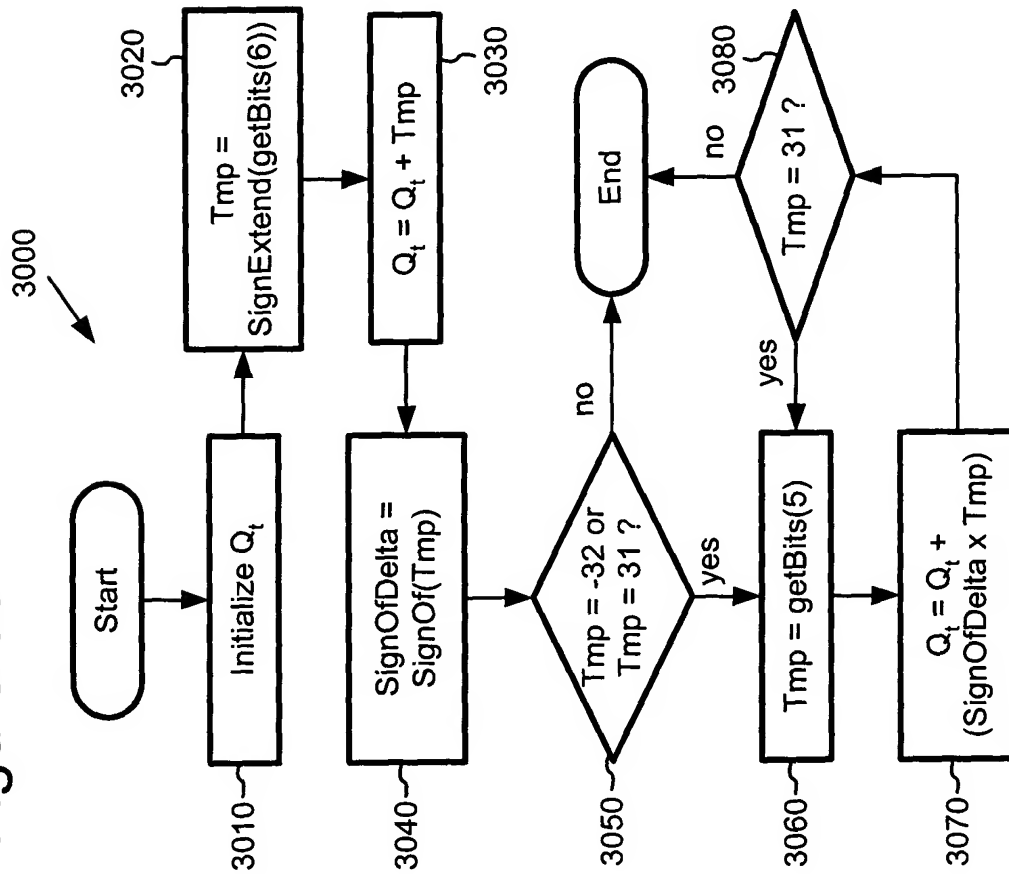


Figure 31

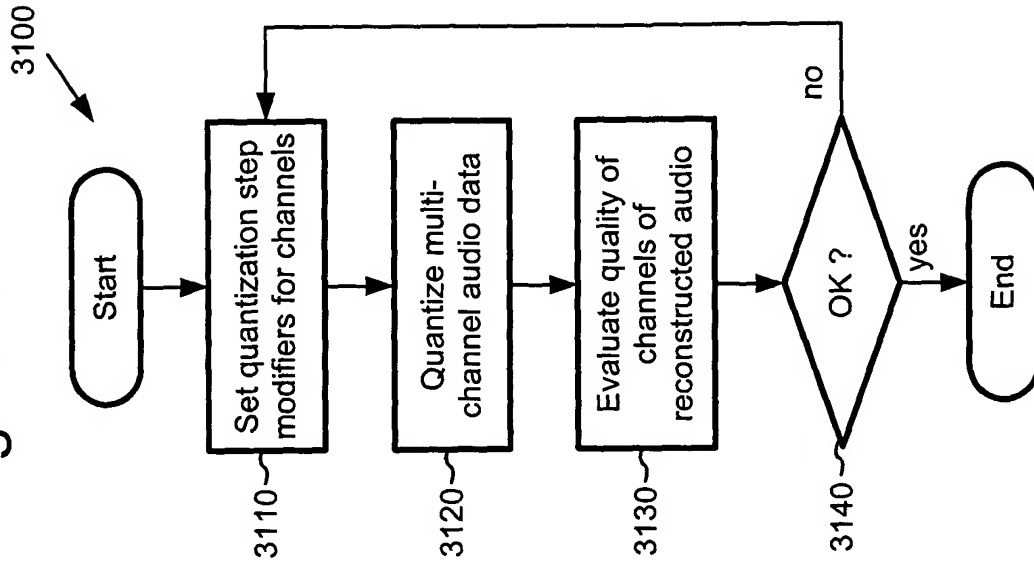


Figure 32

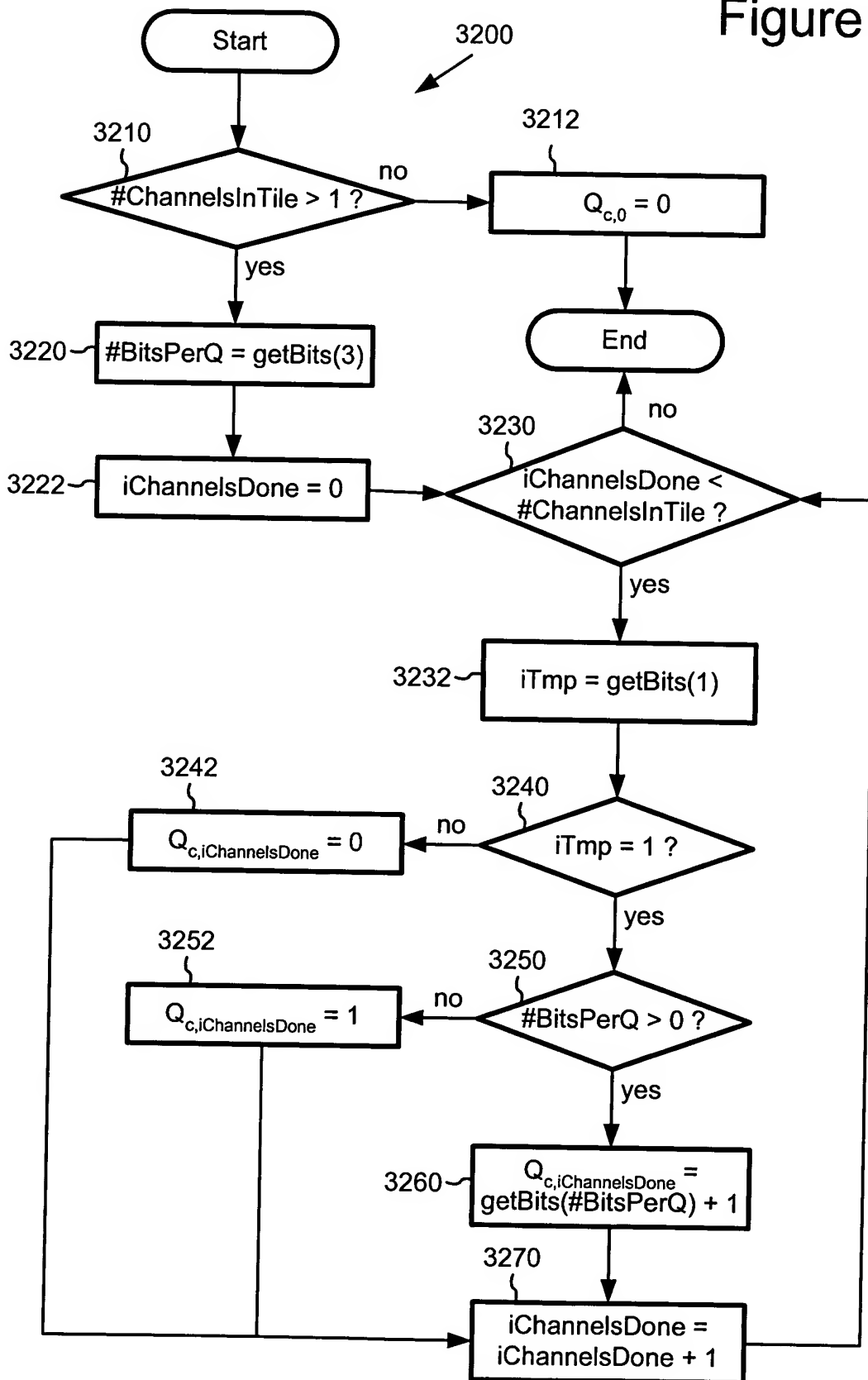


Figure 33

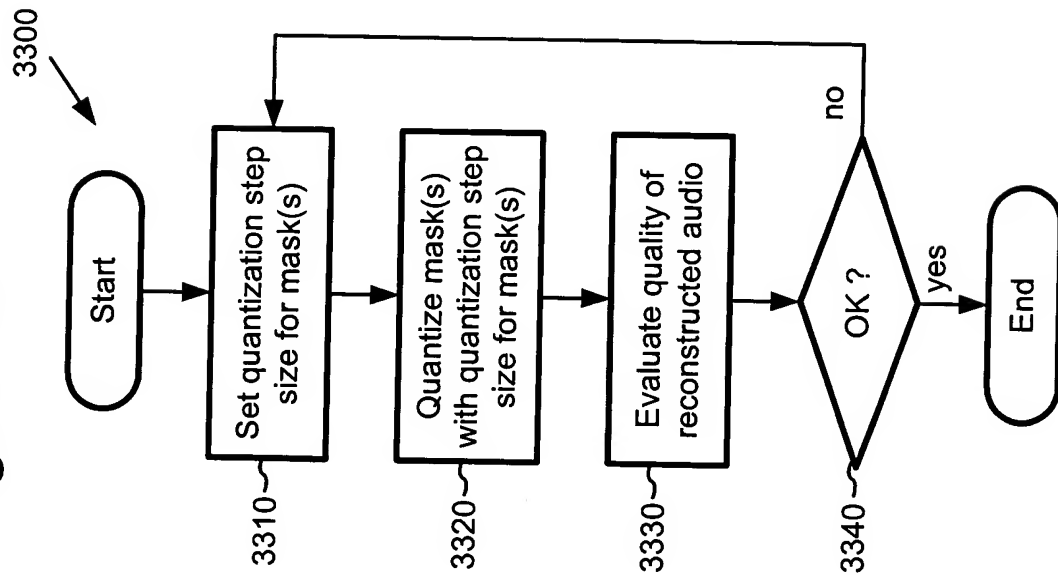


Figure 34

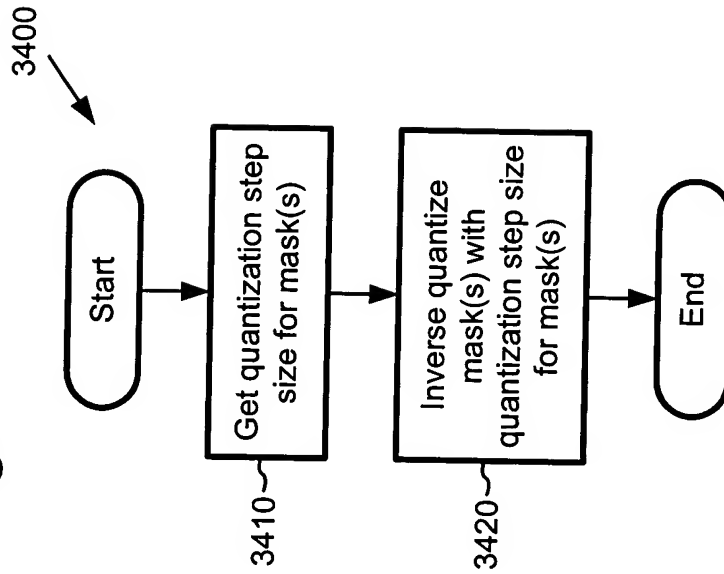


Figure 35

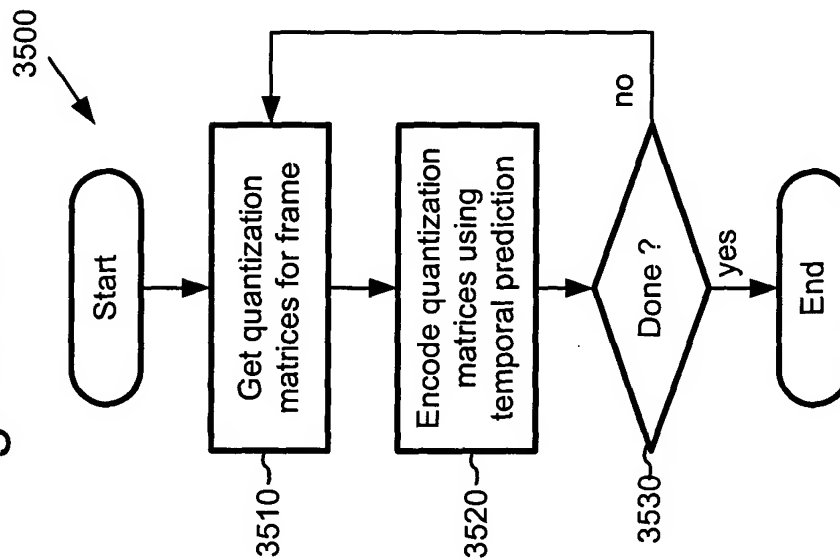


Figure 36

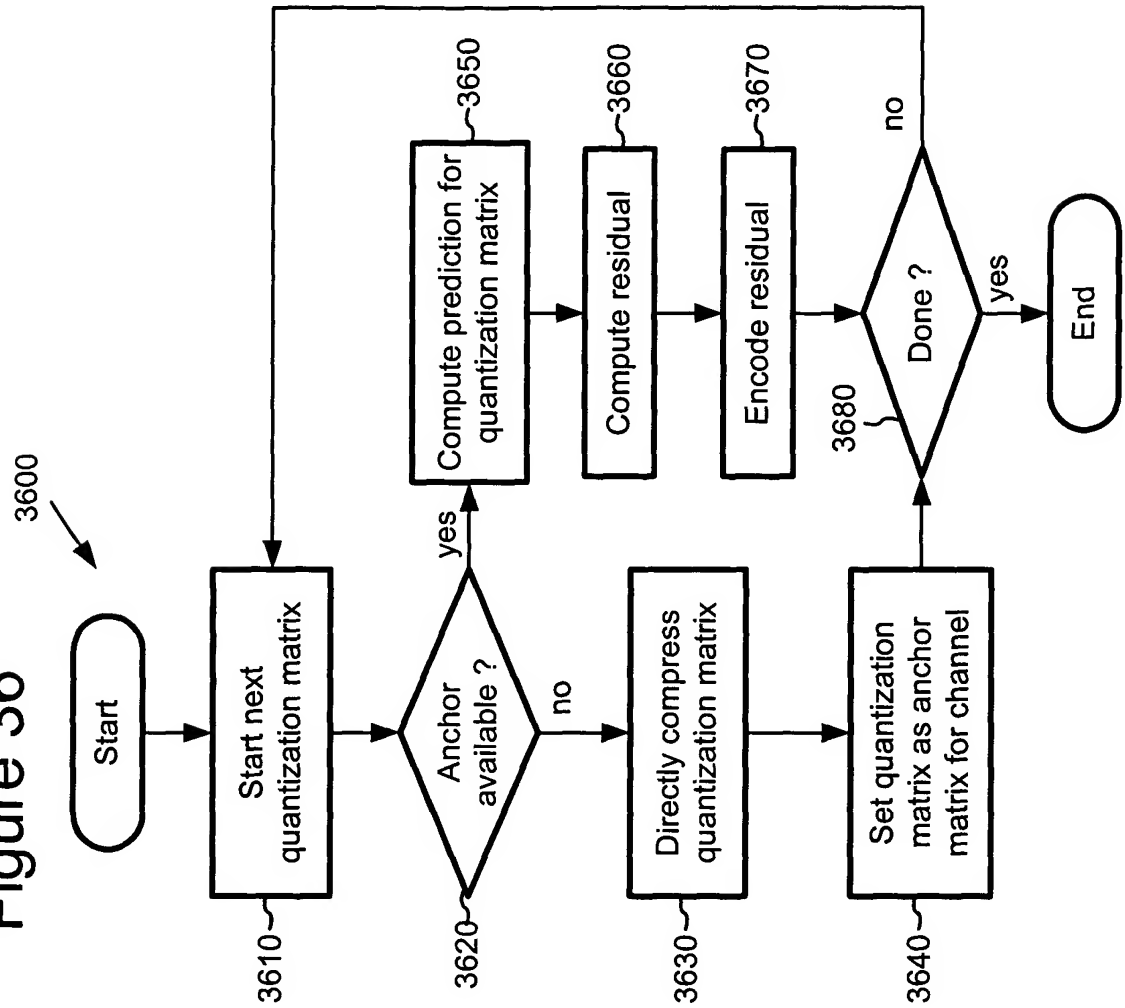


Figure 37

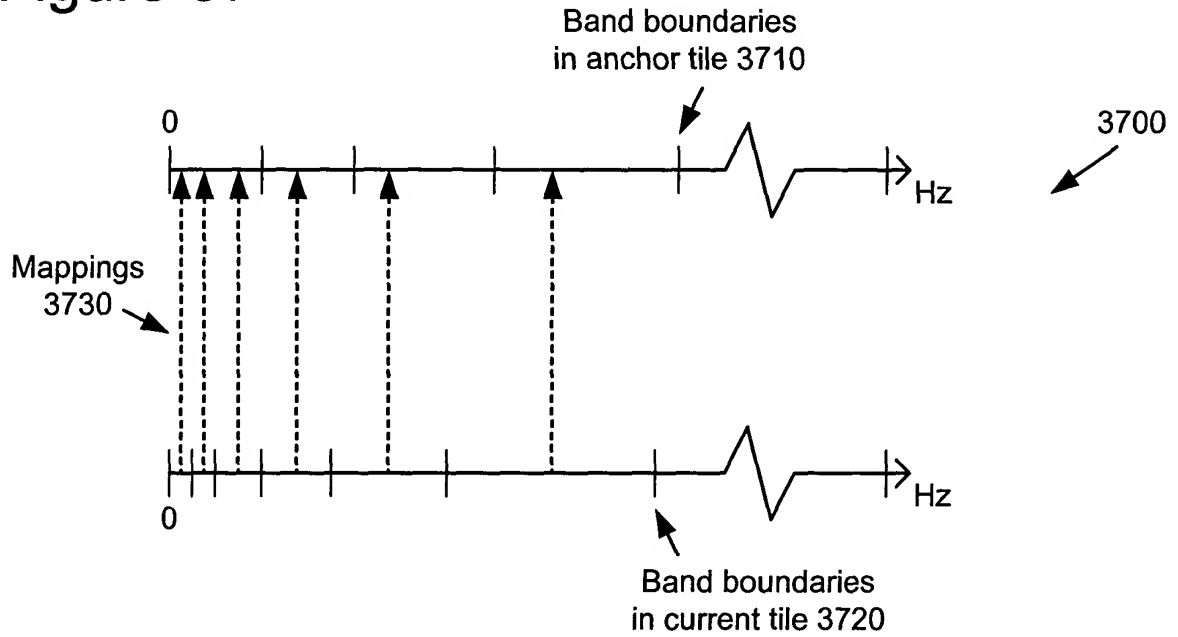


Figure 40

$$A_{P\text{-Center}} = \begin{bmatrix} 1 & 0 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 & 0 \\ 0.5 & 0.5 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \end{bmatrix}$$

Post-processing transform matrix 4000

Figure 38

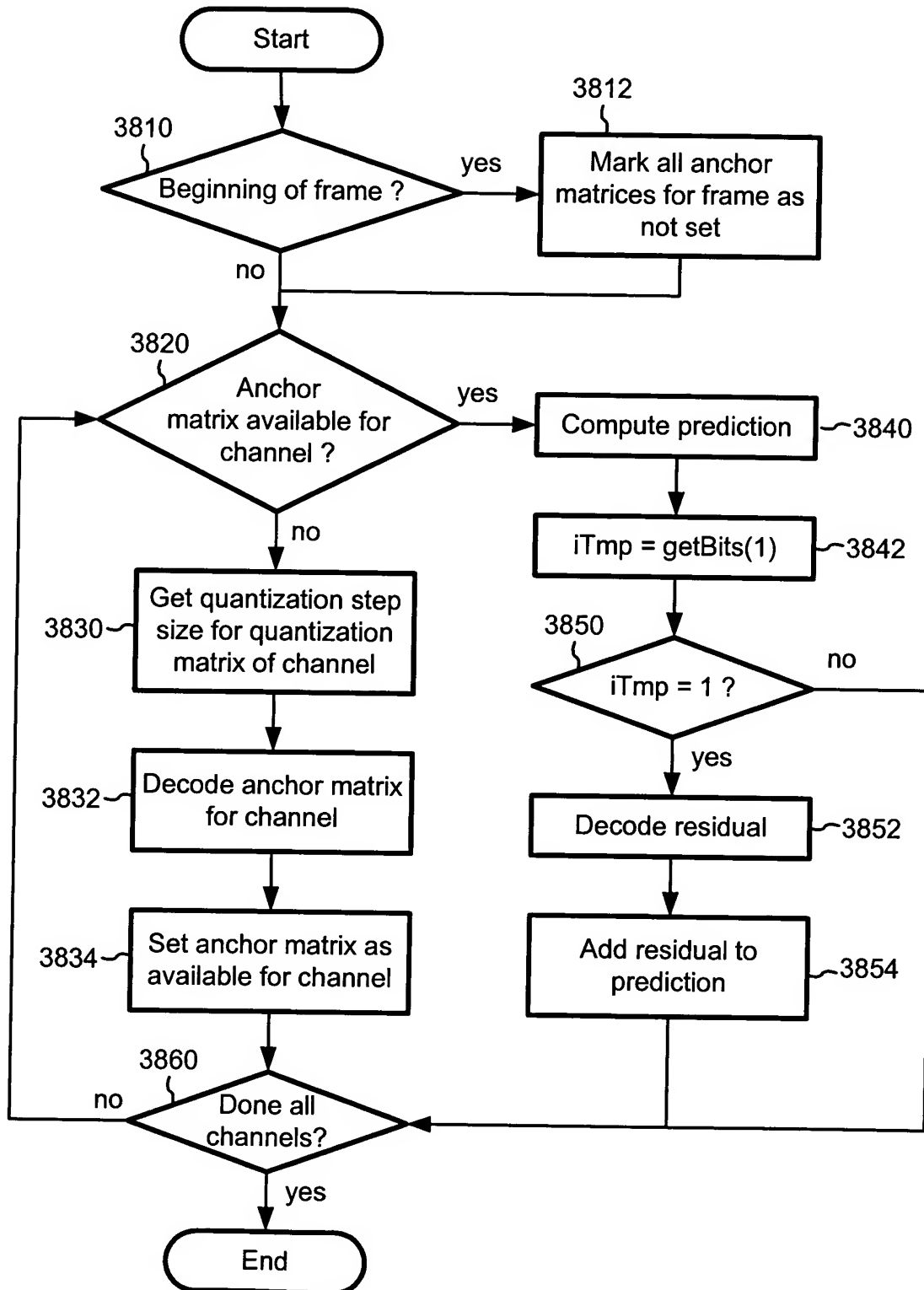


Figure 39

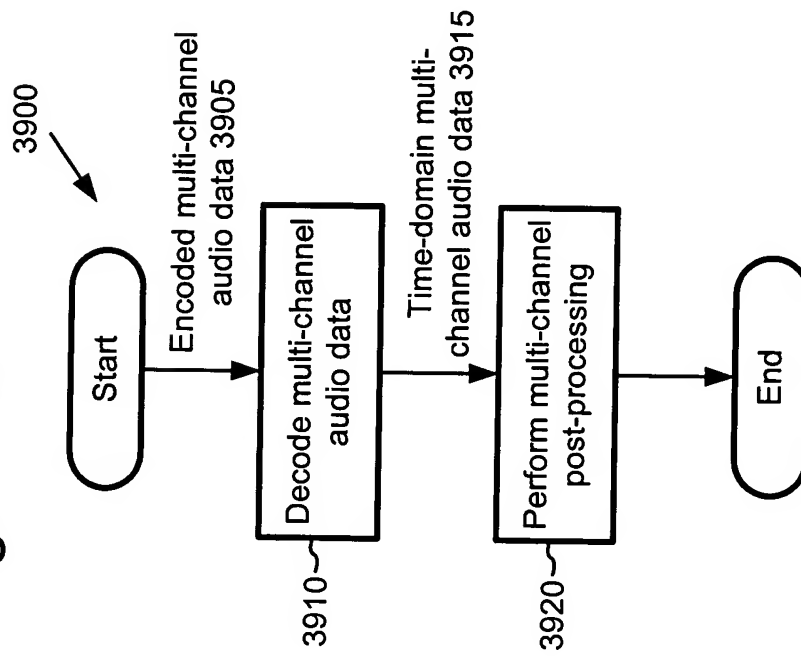


Figure 41

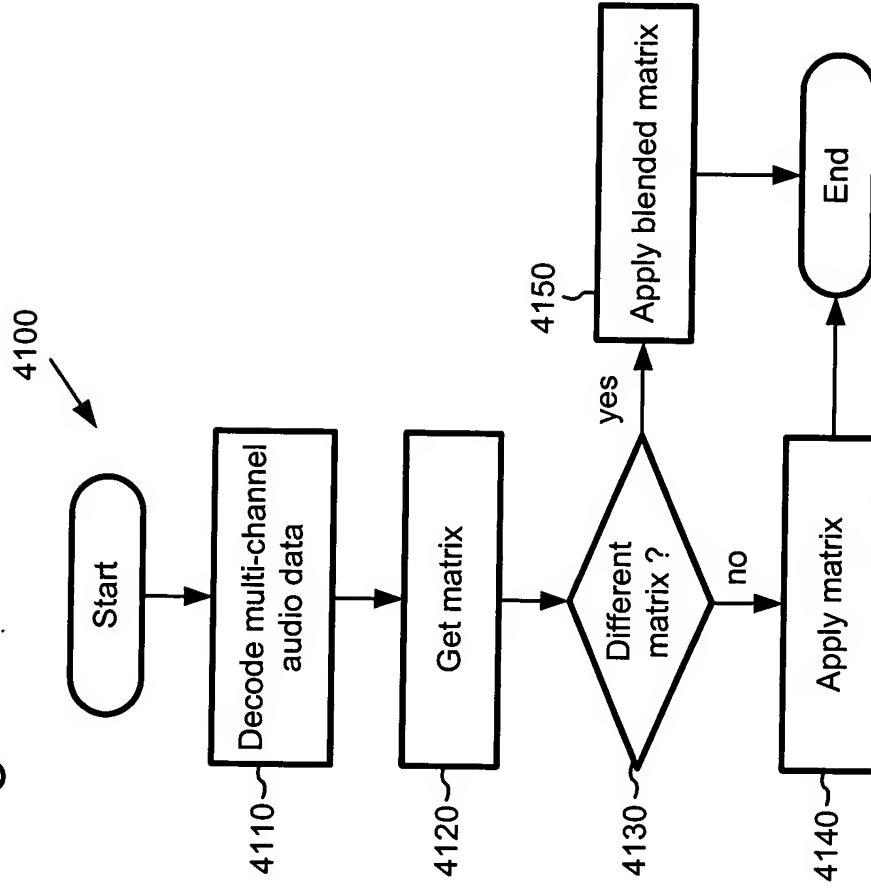


Figure 42

